

CLAIMS

What is claimed:

1. A jar opener comprising:
 - a lid clamp adapted to clamp onto a lid of a jar;
 - a motor connected to the lid clamp;
 - a frame having the motor connected thereto, the frame comprising at least three frame sections which are vertically slidingly connected relative to one another in series in a general telescoping fashion, wherein the motor is connected to a top one of the frame sections; and
 - at least one spring biasing a middle one of the frame sections in an upward direction relative to a bottom one of the frame sections.
2. A jar opener as in claim 1 further comprising a latching system for latching the middle frame section in a downward position on the bottom frame section with the spring being compressed therebetween.
3. A jar opener as in claim 1 wherein the top frame section is located directly against the middle frame section in a downward position by gravity, and the top frame section can be moved upward relative to the middle frame section by a user pulling upward on the top frame section.

4. A jar opener comprising:

a lid clamp adapted to clamp onto a lid of a jar;

a motor connected to the lid clamp; and

a frame having the motor connected thereto, the frame comprising at least three frame sections which are vertically slidingly connected relative to one another in series in a general telescoping fashion, wherein the motor is connected to a top one of the frame sections;

wherein the top frame section comprises two downwardly extending posts slidably extending into holes in a middle one of the frame sections, and at least one of the two downwardly extending posts comprise a latching surface for latching the top frame section in a downward position with a bottom one of the frame sections.

5. A jar opener comprising:

a lid clamp adapted to clamp onto a lid of a jar;

a motor connected to the lid clamp;

a frame having the motor connected thereto, the frame comprising at least three frame sections which are vertically slidingly connected relative to one another in series in a general telescoping fashion, wherein the motor is connected to a top one of the frame sections; and

an adjustable clamp connected to the frame opposite the lid clamp, the adjustable clamp comprising a stationary gear and at least two jaw members having teeth intermeshed with teeth of the stationary gear.

6. A jar opener comprising:
 - a lid clamp adapted to clamp onto a lid of a jar;
 - a motor connected to the lid clamp;
 - a frame comprising at least two frame sections vertically slidingly connected to each other, a top one of the frame sections having the motor connected thereto; and
 - at least one spring located between portions of the frame sections for biasing the top frame section and the motor in an upward direction.
7. A jar opener as in claim 6 further comprising a latching system for latching the at least two frame sections to one another in a compacted closed position.
8. A jar opener as in claim 6 wherein the frame comprises three frame sections vertically slidingly connected to each other.
9. A jar opener as in claim 6 wherein the frame comprises an adjustable jar bottom surface support platform which can be moved vertically up and down relative to one of the frame sections.
10. A jar opener as in claim 6 wherein a bottom one of the frame sections comprises upwardly extending posts on opposite lateral sides of the bottom section, and the top frame section comprises downwardly extending posts slidably connected to the upwardly extending posts.

11. A jar opener as in claim 10 wherein the upwardly extending posts are concentrically located relative to respective downwardly extending posts.

12. A jar opener as in claim 6 wherein the jar opener comprises two of the springs, each of the two springs being located on opposite lateral sides of the frame.

13. A jar opener comprising:

a frame;

a motor connected to the frame;

a first adjustable clamp connected to the motor; and

a second adjustable clamp connected to the frame,

wherein the second adjustable clamp comprises a stationary gear and at least two second jaw members having teeth intermeshed with teeth of the stationary gear, and wherein the second jaw members are adapted to rotate about the stationary gear to move clamping surfaces of the second jaw members inward and outward relative to the stationary gear.

14. A jar opener as in claim 13 wherein the first adjustable clamp comprises a rotatable gear connected to the motor and at least two first jaw members having teeth intermeshed with teeth of the rotatable gear.

15. A jar opener as in claim 14 wherein the two first jaw members are rotatable about the rotatable gear.

16. A jar opener as in claim 15 wherein the first adjustable clamp further comprises at least one spring biasing the first jaw members in outward directions relative to each other.

17. A jar opener as in claim 13 wherein the frame comprises at least three frame sections which are vertically slidingly connected relative to one another in series in a general telescoping fashion, and wherein the motor is connected to a top one of the frame sections.

18. A jar opener as in claim 17 further comprising at least one spring biasing a middle one of the frame sections in an upward direction relative to a bottom one of the frame sections.

19. A jar opener as in claim 13 wherein the first adjustable clamp comprises a magnet.

20. A jar opener as in claim 13 wherein the first and second adjustable clamps are located directly opposite each other, form a jar receiving area therebetween, and are located at top and bottom sides of the jar receiving area.

21. A jar opener as in claim 13 wherein the second adjustable clamp further comprises at least one spring for biasing the second jaw members in outward directions relative to each other.

22. A jar opener comprising:

a name;

a motor connected to the frame; and

a clamping system connected to the frame and the motor, the clamping system comprising a first jar engagement assembly connected to the motor and a second jar engagement assembly connected to the frame,

wherein the second jar engagement assembly comprises generally opposing jaw members adapted to be moved to a clamping position onto a jar by rotational movement of the second jaw assembly, transmitted to the second jaw assembly by the jar, while the jar is rotated on the second jaw assembly.

23. A jar opener as in claim 22 wherein the second jar engagement assembly generally comprises a stationary gear which is stationarily connected to the frame, and at least two jaw members connected to the stationary gear for rotation about the stationary gear to move clamping surfaces of the jaw members inward and outward relative to the stationary gear.

24. A jar opener as in claim 23 wherein the second jar engagement assembly comprises at least one spring for biasing the two jaw members in outward directions relative to each other.

25. A method for opening a jar in a motorized jar opening apparatus comprising steps of:

rotating the jar; and

automatically closing a jar clamp onto the jar as the jar is rotated, the step of automatically closing comprising the jar clamp being axially rotated by contact with the rotating jar to move clamping surfaces of jaw members of the jar clamp inward towards each other;

wherein the jar clamp comprises a gear stationarily connected to a frame of the jar opening apparatus and the jaw members are rotatably connected to the gear, wherein the jaw members move inward relative to the stationary gear when the jaw members are rotated about the gear.

26. A method for opening a jar in a motorized jar opening apparatus comprising steps of:

rotating the jar;

automatically closing a jar clamp onto the jar as the jar is rotated, the step of automatically closing comprising the jar clamp being axially rotated by contact with the rotating jar to move clamping surfaces of jaw members of the jar clamp inward towards each other;

locating a lid clamp of the jar opening apparatus against a lid of the jar;
and

rotating the lid clamp while the lid clamp is located against the lid, the lid clamp clamping onto the lid as the lid clamp is rotated relative to the lid,

wherein the jar is rotated by a motor of the jar opening apparatus only after the lid clamp clamps onto the lid of the jar.

27. A method for opening a jar in a motorized jar opening apparatus comprising steps of:

rotating, the jar;

automatically closing a jar clamp onto the jar as the jar is rotated, the step of automatically closing comprising the jar clamp being axially rotated by contact with the rotating jar to move clamping surfaces of jaw members of the jar clamp inward towards each other; and

opening a frame of the jar opening apparatus from a closed position to an at least partially open position, the step of opening the frame comprising a spring moving at least two frame sections vertically apart from each other.

28. A method as in claim 27 wherein the step of opening the frame further comprises manually lifting a top one of the frame sections to an up position relative to a lower one of the frame sections, the top section having a motor therein.

29. A method as in claim 28 further comprising pushing downward on the top frame section to press a lid clamp of the jar opening apparatus against a lid of the jar, wherein weight of the motor helps to press the lid clamp against the lid.

30. A method for opening a jar in a motorized jar opening apparatus comprising steps of:

rotating a first jar engagement assembly by a motor while the jar remains relatively stationary, the first jar engagement assembly being located against a first portion of the jar;

closing the first jar engagement assembly onto the first portion of the jar as the first jar engagement assembly is rotated relative to the first portion;

subsequently rotating the first jar engagement assembly and the jar together as a unit; and

automatically moving a second jar engagement assembly from an open position to a closed position onto a second portion of the jar as the jar is rotated, the second jar engagement assembly being located against the second portion and being moved to the closed position by rotation of the jar.